

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:
ANTHONY A. LAURENTANO
LAHIVE & COCKFIELD, LLP
28 STATE STREET
BOSTON, MA 02109

PCT

WRITTEN OPINION

(PCT Rule 66)

DOCKETED

MAY 23, 2004 - 5 DAY NOTICE

MAY 28, 2004 - Answer to written opinion

MAY 28, 2004 - Lack of unity - Protest

Date of Mailing
(day/month/year) 28 APR 2004

Applicant's or agent's file reference

HSE-058PC

REPLY DUE

within 1 months/days from
the above date of mailing

International application No.

PCT/US03/25041

International filing date (day/month/year)

08 August 2003 (08.08.2003)

Priority date (day/month/year)

08 August 2002 (08.08.2002)

International Patent Classification (IPC) or both national classification and IPC

IPC(7): H01M 8/06, 12/06; B60K 1/00 and US Cl.: 429/17, 21; 180/65.1

Applicant

ZTEK CORPORATION

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2 (a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension. See rule 66.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4. For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis. For an informal communication with the examiner, see Rule 66.6

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 08 December 2004 (08.12.2004)

Name and mailing address of the IPEA/US

Mail Stop PCT, Attn: IPEA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

John S. Maples

Telephone No. 571-272-1700

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LAHIVE & COCKFIELD
DOCKET DEPT
APR 30 2004

Form PCT/IPEA/408 (cover sheet) (July 1998)

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RETRIEVED:
FORWARDED:

571-272-1287

WRITTEN OPINION

International application No.

PCT/US03/25041

I. Basis of the opinion

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed
- ☒ the description:
 pages 1-11, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____
- ☒ the claims:
 pages 12-15, as originally filed
 pages NONE, as amended (together with any statement) under Article 19
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____
- ☒ the drawings:
 pages 1-2, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages NONE, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE
- ☒ the claims, Nos. NONE
- ☒ the drawings, sheets/fig NONE

5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed."

WRITTEN OPINION

International application No.

PCT/US03/25041

IV. Lack of unity of invention

1. In response to the invitation (Form PCT/IPEA/405) to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
- ☒ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

2. This Authority found that the requirement of unity of invention is not complied with for the following reasons and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees:

3. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this opinion:

- ☒ all parts.
- ☐ the parts relating to claims Nos. _____.

Form PCT/IPEA/408 (Box IV) (July 1998)

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WRITTEN OPINION

International application No.
PCT/US03/25041

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

| | | |
|-------------------------------|----------------------------|-----|
| Novelty (N) | Claims <u>1-21, 23, 25</u> | YES |
| | Claims <u>22, 24</u> | NO |
| Inventive Step (IS) | Claims <u>1-21</u> | YES |
| | Claims <u>22-25</u> | NO |
| Industrial Applicability (IA) | Claims <u>1-25</u> | YES |
| | Claims <u>NONE</u> | NO |

2. CITATIONS AND EXPLANATIONS

Claims 22 and 24 lack novelty under PCT Article 33(2) as being anticipated by ERICKSON ET AL. Reference is made to the Abstract to ERICKSON ET AL. along with Figures 1-2; column 3, lines 15-26 and column 5, line 51 through column 9, line 20. ERICKSON ET AL. utilizes dual batteries to power a motor in a vehicle which can travel up to 500 miles at one time.

Claims 22-25 lack an inventive step under PCT Article 33(3) as being obvious over STONE. The patent to STONE teaches in Figures 1-3; the Abstract; column 1, line 66 through column 2, line 23 and column 2, line 61 through column 5, line 20 a vehicle propulsion system having a motor including air cell batteries along with additional fuel cells. The only claimed feature not taught by STONE is the distance the vehicle can travel at one time being greater than 300 miles. STONE discloses a distance the vehicle can travel being up to 300 miles. It would have been obvious to have utilized the vehicle in STONE to travel a distance of greater than 300 miles if the terrain used therewith was mostly downhill and if higher capacity electrode materials were used. One would desire to travel a distance greater than 300 miles so that stopping of the vehicle would not be required over this distance.

Claims 1-21 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest the power supply system for powering an electric motor in an electric vehicle comprising a generator that converts a fuel to electricity, a metal-air converter coupled to the motor and the generator to receive electricity from the generator and a fuel supply to supply the generator with fuel.

Claims 1-25 meet the criteria set out in PCT Article 33(4), and thus the claimed power supply system/method of propelling a vehicle possesses industrial applicability because the subject matter claimed can be made or used in industry.

____ NEW CITATIONS _____

WRITTEN OPINION

International application No.
PCT/US03/25041

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

TIME LIMIT:

The time limit set for response to a Written Opinion may not be extended. 37 CFR 1.484(d). Any response received after the expiration of the time limit set in the Written Opinion will not be considered in preparing the International Preliminary Examination Report.

CHAPTER II
PCT TELEPHONE MEMORANDUM
FOR
LACK OF UNITY OF INVENTION



PCT No.: PCT/US03/25041

Examiner: John S. Maples

Attorney spoken to: Anthony Laurentano

Date of call: 08 March 2004

- ☒ Amount of payment approved: \$420.00
- ☒ Deposit account number to be charged: 12-0080
- ☒ Attorney elected to pay for ALL additional inventions
- ☐ Attorney elected to pay only for the additional inventions covered by
- ☐ Group(s):
- encompassing --
- ☐ Claim(s):
- ☐ Attorney elected NOT to pay for any additional inventions, therefore, only the first claimed invention Group _____, covered by Claim(s) _____ has been examined.
- ☒ Attorney was orally advised that there is no right to protest for any group not paid for.
- ☒ Attorney was orally advised that any protest must be filed no later than 1 Month from the mailing of the Opinion (Form PCT/IPEA/408) or the Final Report (Form PCT/IPEA/409).

Time Limit For Filing A Protest

Applicant is hereby given 1 Month from the mailing date of this Opinion/Final Report in which to file a protest of the holding of lack of unity of invention. In accordance with PCT Rule 68.3, applicant may protest the holding of lack of unity only with respect to the group(s) paid for.

Itemized Summary of Claim Groupings:

Please See Continuation Sheet

Detailed Reasons For Holding Lack of Unity of Invention:

Please See Continuation Sheet

Note: A copy of this form must be attached to the Opinion/Final Report.

ATTACHMENT TO CHAPTER II PCT TELEPHONE MEMORANDUM FOR LACK OF UNITY OF INVENTION

Itemized Summary of Claim Groupings:

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claims 1-8, 14-18, drawn to a power supply system.

Group II, claims 9-13, drawn to a method of charging a metal-air converter.

Group III, claims 19-21, drawn to a method of propelling a vehicle.

Group IV, claims 22-25, drawn to an electrically-powered vehicle.

Detailed Reasons For Holding Lack of Unity of Invention:

The inventions listed as Groups I-IV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Groups I and IV do not include the step of converting the metal oxide back to the metal as do the Group II and III claims. Group I comprises a generator which is not part of the claims of Group IV. In addition, the Group IV vehicle must have the capacity to travel over 300 mile, which limitation is not part of the Group I system. Finally, Groups II and III are different because Group II is drawn to a method of charging a converter while Group III is directed to a method of propelling a vehicle; two materially different processes requiring different steps.

Note: A copy of this form must be attached to the Opinion/Final Report.

FEE CODING AND RECORDING SHEET

Additional Sheets Attached

IDENTIFICATION OF THE INTERNATIONAL APPLICATION

INTERNATIONAL APPLICATION NUMBER

PCT/US03/25041

INTERNATIONAL FILING DATE

08.08.2003

APPLICANT (NAME)

ZTEK CORPORATION

PAYMENTS

REFUNDS

| PAYMENT ON FILING DEMAND | | ADDITIONAL | | TO DEPOSIT ACCOUNT | | TO DEPOSIT ACCOUNT | |
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